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## Abstract

Based on the turnover data of provincial party committee secretaries in China between 2000 and 2008, we find that the loan increment of local SOEs (state-owned enterprises) decreases by 18.9% in turnover years. We also document increased efficiency of long-term loans in turnover years. The effects of provincial leader turnover on bank loans only exist for local SOEs in eastern regions and more marketized provinces. Local officials have less of a political incentive to exert influence on bank credit allocation in turnover years, and therefore banks act as more effective intermediaries in optimizing credit allocation and improving the efficiency of loans.



Keywords: Political Turnover; Bank Loans; Credit Allocation Efficiency; Local SOEs

JEL: G30; G31; G38

## 1. Introduction

The impact of political intervention on economic outcomes is an important issue in the political economy literature. This vast literature mainly focuses on how political leadership elections affect corporate investments. A number of studies show that firms significantly reduce investment expenditure during periods of high political uncertainty, such as election years, supporting the notion that political uncertainty hinders corporate investments (e.g. Julio and Yook, 2012; An et al., 2016; Jens, 2017). While financial activities play a crucial role in economic growth and corporate investments, political influence on the allocation of financial resources (e.g. bank loans) during a power reshuffle has been much less well studied, in comparison to political influence on corporate investments. In particular, the impact of regional political leader turnover, in countries in which there are no elections, on bank loan allocation is largely unexplored.

Several studies (e.g. Dinc, 2005) show that bank lending increases significantly during election years, as predicted by the political business cycle hypothesis (Nordhaus, 1975) that incumbents manipulate policies to increase growth prior to an election in order to gain more votes in the election. The results are not yet conclusive. First, it is not clear whether results from countries with democratic elections are generalizable to countries with different political regimes (e.g. non-election political reshuffle). The effect may depend on a country's political structure. Second, prior studies mainly focus on the change in bank loans, while the impact of political turnover on the efficiency of bank loans remains under-researched. Finally, the main channels through which officials influence banks loans are not well studied in the literature. Aiming to provide new insights to these questions, we examine the impact of Chinese

provincial leader turnover on the efficiency of bank loan allocation.

Different from most Western countries, on which most studies are based, China has several unique features in its economic structure and political system, which provide an interesting setting to study the effects of regional political turnover on bank loans. First, state-owned banks dominate the Chinese banking sector (Dobson and Kashyab, 2006), which could facilitate political intervention in banking activities. We expect that the problems associated with political influence on bank loans could be more severe than those on the corporate investments of non-bank firms, as the political motivations behind bank loans could be easily disguised by the information asymmetry between banks and outsiders over the quality of loans (Dinc, 2005). Second, firms, especially SOEs, rely heavily on bank loans (Cull and Xu, 2000; Firth et al., 200), due to the relatively nascent stock markets and small corporate bond markets. Therefore, bank credit allocation is the most important channel through which politicians could influence investments in SOEs. Third, administrative, fiscal and banking decentralisation (Jin et al., 2005) empowers local (e.g. provincial) officials with substantial autonomy and effective tools to utilise in intervening into the economic activities of both banks and firms, especially provincially controlled SOEs. In particular, the region-based banking system that emerged after banking decentralisation could be abused by local officials engaging in political or personal rent-seeking behaviour. Finally, the tournament-like regional (e.g. provincial) performance-based personnel evaluation and promotion schemes (Maskin et al., 2000) in the Chinese political regime create strong incentives for local officials to intervene in bank lending activities or corporate investments, in favour of their own political or personal agenda.

Using hand-collected data on changes of provincial party secretaries in China between

2000 and 2008, we conduct regression analyses to examine the relation between regional political turnover and the change in the level and efficiency of bank loans in local SOEs. In our analyses, we also distinguish different geographic locations, different types of firms (i.e. centrally controlled SOEs, provincially controlled SOEs and private firms), and direct/indirect controls. Furthermore, we conduct several robustness checks, including an endogeneity test employing the instrumental variable approach, and additional analysis using the difference-in-differences method.

We report a significant decrease in the bank loans of local SOEs during provincial party secretary turnover years. The magnitude of this effect in economic terms is dramatic, considering that the loan increment falls by 18.9% in turnover years, on average, relative to non-turnover years, and such decrease is mainly due to the reduction in long-term loans. Our results also show that the efficiency of long-term loan allocation is significantly higher in turnover years than in non-turnover years, suggesting that banks act as more effective financial intermediaries in credit allocation in turnover years. Additionally, we find that effects of local political turnover on bank loans only exist in local SOEs in eastern regions.

To the best of our knowledge, this is the first study to examine the effects of regional political turnover on the allocation of bank loans. In contrast to existing studies that report an increase in bank lending during election years in countries with democratic election systems (Dinc, 2005), our study documents a significant decrease in bank loans in provincial political leader turnover years in China.

Another contribution of this study is providing empirical evidence on how regional political turnovers affect the efficiency of bank loan allocation, while the existing literature has

focused on the influence of political turnovers on the level of loans only (e.g. Dinc, 2005). Our study also helps to identify the bank channel as the dominant channel through which turnover could affect the efficiency of bank loan allocation.

The remainder of the paper proceeds as follows. Section 2 provides the institutional background. Section 3 discusses related literature and develops the hypotheses. Section 4 describes the sample and research design. Section 5 presents empirical results. Section 6 concludes.

## 2. Decentralisation in China

During the First Five-Year Plan (1953-1957), based on the Soviet model, China gradually realized the limitations of over-centralisation featured in the Soviet model and started to deviate from the model through administrative decentralization. As a result, China has had a multi-layer-multi-regional hierarchical economy following the territorial principle (M-form) since 1958. Political power has been further decentralised along regional lines through a series of reforms which enhance the authority of provincial governments.

Following the successful decentralisation in the political system, several reforms since 1979 extended the decentralisation to the financial system. In 1980, the Chinese government introduced the fiscal revenue sharing scheme, in which provinces remit a portion of local revenue to the central government and retain the remainder. The fiscal sharing scheme largely increased local governments' incentives to boost local economic growth (Jin et al., 2005). The separation of the central bank and the big four specialised banks in 1983 marked the beginning of the decentralisation in China's banking system. In particular, .the regional deposits are

connected to the credit expansion of the regional branches of specialised banks. Each regional branch of the central bank is responsible for the reallocation of funds within each region. In addition, regional banks owned by local government have been established since 1980s. This region-based banking system makes it possible for local governments to exert their influence on credit allocation through the regional branches of the specialised banks and the central bank.

## 3. Literature review and hypotheses development

### 3.1 Allocation of bank loans

Since North (1981), the vast literature has investigated government intervention and political influence on economic performance and demonstrated that political institutions have an important impact on economic growth across countries (e.g. Shleifer and Vishny, 1993; Limongi and Przeworski, 1993; De Long and Shleifer, 1993; Quinn and Woolley, 2001; Rodrik et al., 2004, Chen, et al., 2017). Political leaders who play important roles in political institutions can significantly influence economic development and firms' performance (Jones and Olken, 2004). On the one hand, the "helping hand" view of the government intervention suggests that government can promote economic development by intervening financial markets and channelling credits to the sectors prioritized by the governments and help politically connected firms to gain a number of benefits, including easier access to debt financing, favourite tax treatment etc. (Beck&Levine, 2002; La Porta et al. 2002; Sapienza, 2004; Charumilind et al., 2006; Faccio,2007). On the other hand, many research advance the opposing view that the government acts as a "grabbing hand," controlled by politicians who

"do not maximize social welfare and instead pursue their own selfish objectives" (Shleifer and Vishny 1998, 4). Politicians in power exert political pressure to engage in rent-seeking behaviours, which in turn jeopardize firm performance and value (Frye and Shleifer, 1997; Faccio 2006; Ang et al. 2011; Carl et al. 2017). The government officials and bureaucrats' intervention could be more pronounced in China, given the Chinese M-form hierarchical economy based on a territorial principle. The decentralised structure of the economy provides substantial autonomy and incentives for regional governments and local officials to develop their own region's economies. Since the opening up of the Chinese economy to the outside world in 1979, China has shifted its focus of personnel evaluation criteria away from political conformity to economic performance (Chen et al., 2005). The central government rewards and punishes local officials through a yardstick competition on the basis of regional economic performance (Maskin et al., 2000). Such a performance-based promotion system creates tournament-like incentives for local government officials to advance local economic growth (Li and Zhou, 2005). One important way for local officials to boost economic growth is to influence the allocation of financial resources in their regions. Local officials can exert their influence through two channels.

First, given the underdeveloped capital market and lack of a public bond market, bank loans are the dominant source of corporate investment, and loan credit supply plays a vital role in Chinese economic development (Cull and Xu, 2000; Firth et al., 2009). In this context, the two salient characteristics of the Chinese banking sector, state ownership and implicit government guarantees, allow local leaders to continuously exert influence over bank credit allocation. The Chinese banking sector is dominated by government-controlled banks, and the

board of directors and managers of those banks are generally appointed or approved by the governments (Bailey et al., 2012). This state ownership and the personal control in banks enable local officials to exploit financial resources and pressure banks to grant more loans to SOEs controlled by provincial governments in order to pursue their political or personal objectives. These firms play an important role in the regional economy, which in turn determines the career outcomes of provincial leaders. From the point of view of banks, Chinese SOEs bear relatively lower credit risk than non-state firms because of the implicit government guarantees. The government provides SOEs with subsidies or bailouts. Consequently, under the influence of local officials, banks incline to make more loans to SOEs and the lending decisions may not be made on a profit-maximization basis but largely according to political considerations. Therefore, local officials could intervene in economic activities through the bank channel to extract political benefits.

Second, local officials could also influence credit allocation activities indirectly through the firm channel. As shown in the literature (e.g. Li and Zhou, 2005), local leaders play an active role in boosting regional economic growth through encouraging corporate investments. Cull et al. (2015) attribute the incentives of local officials to intervene in corporate investments to the fiscal revenue-sharing regime and performance-based promotion scheme in Chinese economic and political systems. Both the financial and the career-related benefits motivate local officials to encourage or even pressure firms to increase their investments, which could lead to a significant increase in the demand for bank loans. In this sense, local officials have a significant influence on the demand for bank loans, affecting the credit market indirectly.

In brief, under normal conditions, the fiscal decentralisation and the tournament-style

promotion system could motivate local officials to lend a "helping hand" (Brown et al., 2009; Li, 1998) in pushing forward local GDP growth by channelling financial recourses such as bank credits to local SOEs (Jin et al., 2005; Li and Zhou, 2005) through their influence on the supply side (i.e. banks) and/or the demand side (i.e. corporate investments). In this paper, we examine the political influence of local officials on bank loans under an "abnormal" condition, that of provincial leader turnover periods.

### 3.2 Hypothesis Development: Loans

We hypothesize that the political influence on bank loans is weaker during provincial leader turnover than during a "normal" (non-turnover) period. This is because both the motivation of the incumbent leader and the ability of the new leader to exert influence on credit allocation are relatively weak during a turnover year. For the incumbent provincial leader, the career-related incentive to improve local economic performance by increasing capital expenditure is much weaker during the turnover, as his/her destination has already been decided by the time the turnover is announced. For the new leader, there is a transitional period for him/her to adapt to the new environment, before he/she could intervene in credit allocation from the supply side (through the bank channel) and/or from the demand side (through the firm channel). In other words, during provincial leader turnover, there is a short "power vacuum" period in which banks and local SOEs could be relieved temporarily of the political pressure to increase loans. Therefore, we have our first hypothesis as follows:

*Hypothesis 1a:* The loan increment of local SOEs in provincial party secretary turnover years is lower than that in non-provincial party secretary turnover years.

Furthermore, we hypothesize that the impact of provincial leader turnover is more pronounced on long-term loans, considering that corporate investment projects subject to political influence often feature large capital expenditure that relies heavily on long-term loans. In addition, as pointed out by Diamond (1991) and Ramakrishnan and Thakor (1984), long-term loans are usually more difficult to monitor than short-term loans, due to the difficulty banks face in accessing and assessing information related to long-term loans in a timely manner. In this sense, from banks' perspective, long-term loans are riskier than short-term loans, and therefore banks are more likely to reduce long-term lending in order to effectively control risks during periods of provincial leader turnover. This leads to our prediction as follows:

*Hypothesis 1b:* The long-term loan increment of local SOEs in provincial party secretary turnover years is lower than that in non-provincial party secretary turnover years.

### 3.3 Hypothesis Development: Credit allocation efficiency

In the previous section, we suggested that the reduction in loans could be due to the adjustment on the supply side (i.e. banks) through the bank channel, the adjustment on the demand side (i.e. corporate investments) through the firm channel, or both. While both the supply-side adjustment and the demand-side adjustment during political turnover could

potentially affect loan increments in the same direction (i.e. decreasing loan increments), their impact on the efficiency of loan allocation could differ.

Considering the bank channel, we hypothesize that banks could allocate credit more effectively during political turnover as they are subject to less political influence, and bank lending could increase firm value. Usually, the intermediary role of Chinese banks in optimising credit allocation is compromised due to political pressure. A large share of banks' credit goes to loss-making SOEs (Cull and Xu, 2003). Policy loans and easy credit enable loss-making SOEs to operate with "soft budget constraints" (Kornai, 1992). It seems Chinese banks are not too concerned about the risks associated with loans to loss-making SOEs that are granted under local government interventions, as bailouts from the government are usually assumed if banks fail. Thus, banks may deviate from a profit-maximisation objective to political or personal objectives set by bureaucrats or politicians based on the priorities of the government or the preferences of the politicians, consequently compromising the efficiency of loan allocation (Shleifer and Vishny, 1994; Sapienza, 2004). Indeed, considering the financial benefits and career concerns, local politicians (e.g. provincial leaders) have strong incentives to utilise the financial resources (e.g. bank credits) under their influence to help keep loss-making SOEs afloat in order to avoid an increase in the unemployment rate and maintain social stability (Bailey et al., 2012) during their tenure.

As political influence could have a negative impact on credit allocation efficiency, the decreased political intervention from provincial leaders during turnover periods is hypothesized to lead to an increase in credit allocation efficiency. Under less political pressure, banks have more autonomy in the allocation of financial resources, and they are more likely to

make lending decisions on a profit-maximization basis. As a result, high-quality loans will crowd out some "policy" loans, leading to an improvement in marginal productivity of capital (Beck et al., 2000). Furthermore, banks could play a more effective corporate governance role in monitoring investments, as proposed by Jensen and Meckling (1976) and Diamond (1984), when there is less political intervention. In brief, in provincial leader turnover years, banks are more likely to act as effective intermediaries in allocating loans to high-quality investment projects in local SOEs, thus increasing loan efficiency and improving firm performance. As discussed in the previous section, political influence is hypothesized to be more pronounced for long-term loans than short-term loans, and therefore we focus on long-term loans in examining the impact of political turnover on credit allocation efficiency. We use the marginal effect of long-term loans on local SOEs' Tobin's Q increment (i.e. marginal productivity of long-term loans) as the proxy for credit allocation efficiency in this study. Therefore, we develop our second hypothesis as follows:

*Hypothesis 2:* In provincial party secretary turnover years, the higher the long-term loan increment, the higher Tobin's Q increment, in local SOEs.

It should be noted that apart from the supply-side adjustment made by banks (i.e. bank channel), the demand-side adjustment in corporate investments made by firms (i.e. firm channel) during turnover periods could also affect bank credit allocation efficiency. A vast literature shows that Chinese local governments' intervention significantly influences corporate investment policies, and many local SOEs suffer from an overinvestment problem due to such

local political intervention. During turnover periods, the political incentive for local officials to encourage overinvestment is weak. Therefore, under less political pressure, local SOEs could alleviate the overinvestment problem and increase efficiency by cutting back on inefficient investments, leading to a decline in the demand for long-term loans from banks. As this adjustment is likely to be mainly on a value-maximisation basis, we expect that the higher the scale of such adjustment (i.e. lower long-term loan increment), the greater the improvement in efficiency (i.e. higher Tobin's Q) in local SOEs. Interestingly, this firm channel-based prediction is the opposite of the bank channel-based prediction stated in our second hypothesis. It is possible that political turnover impacts bank loans through both channels simultaneously, and then these contradictory predictions provide us with a unique opportunity to empirically examine which effect from which channel dominates (i.e. the net effect of both bank and firm channels).

## 4 Research design

### 4.1. Data

We obtain firm characteristic data from Chinese Stock Market Accounting Research (CSMAR) and annual reports for the period from 2000 to 2008. Starting with all Chinese A-stock firms in the sample period, we exclude financial firms and firms without information about ultimate controlling shareholders. These screening criteria yield a final sample of 5,482 local state-owned firm-year observations. All continuous variables are winsorized at the 1% and 99% levels.

The main independent variable of interest in our study is the turnover of provincial party general secretaries (*Turnover*). We focus on provincial party secretaries, considering their dominant power in the decision-making process at the provincial level and the large magnitude of their influence on both banking activities and corporate investments in their provinces. The provincial party secretary is usually referred to as the "first hand" in a provincial government and is ultimately responsible for provincial performance.

We hand-collect detailed provincial secretary turnover information from the *Official Records of the Peoples Republic of China (2003)* and the officials' resumes from Xinhua (www.xinhuanet.com) or Renmin (www.people.com.cn) websites. We also obtain some relevant information through searching for turnover news on Baidu (www.baidu.com).[1] Our turnover data set covers 31 provincial-level administrative regions, including 22 provinces, 4 municipalities and 5 autonomous regions.[2]

### 4.2. Baseline model specification

To examine the impact of turnover on change in bank loans, we use the following regression model:

$$\Delta loan = a_0 + a_1 Turnover + \lambda \sum Control + YearDummies + IndustryDummies + \varepsilon \qquad (1)$$

The dependent variable *Δloan* is the firm-level change in bank loans (i.e. newly granted bank loans), defined as the change in total bank loans in the current year scaled by lagged total assets. We measure the changes of bank loans because we intend to explore the differences between years that officials rotate and the years they do not. The control variables, including

[1] Baidu is the Chinese search engine equivalent to Google.
[2] The two special administrative regions (i.e. Hong Kong and Macao) and Taiwan are not included in our sample, due to the significant differences in their political and economic systems.

firm performance and characteristics, are defined in Table 1. To support H1, we expect a significantly negative $a_1$.

To test H2 on the efficiency of bank loan allocation, we examine the sensitivity between Tobin's Q and newly granted loans in the turnover years by using the following regression model:

$$\begin{aligned}\Delta tq = a_0 + a_1 \Delta longl + a_2 \Delta longl \times Turnover + a_3 Turnover \\ + a_4 \sum Control + a_5 \sum year + a_6 \sum ind + u_2\end{aligned} \quad (2)$$

The dependent variable is estimated by using Tobin's Q of the current year minus Tobin's Q of the previous year. Control variables are defined in Table 1. To support H2, we must document a significantly positive $a_2$.

[Insert Table 1]

Table 2 presents the distribution of our sample across years and summary statistics of variables. Panel A shows that between 2000 and 2008, 66 provinces experienced provincial party secretary turnover, which is 23.66% of all provinces on average, and the firms corresponding to turnover provinces is 25.41% of the total sample of the firms. Panel B shows that the change in long-term loans (*Δlongl*) in the turnover group is significantly lower than that in the non-turnover group.

[Insert Table 2]

## 5. Empirical Results

### 5.1. Test of H1

Table 3 reports the regression result of Model (1). It shows that the coefficient on official turnover (*Turnover*) is significantly negative with local state-owned firms' bank loans (*Δloan*),

meaning that compared with the years in which there is no turnover, the loans of local SOEs decline in years when there is turnover, which supports H1a. Further tests focusing on different types of loans (i.e. long-term loans and short-term loans) show that turnover negatively influences long-term loans (*Δlongl*), while exerting no significant influence on short-term loans (*Δshortl*). The results imply that in years when officials rotate, a decrease is only seen in long-term loans. This evidence supports H1b.

As for control variables, we report that the larger the size of the firm (*Size*), the larger the acquired long-term loans (*Δlongl*). A possible explanation is that large local SOEs plays a bigger role than small firms do in local economic growth, and they are important in keeping the local unemployment rate low. Therefore, the local government is more likely to give support to those large firms in bank loan allocation. We also find that Tangibility has a significant negative impact on total loans (*Δloan*) and long-term loans (*Δlongl*). This result suggests that firms with more tangible assets tend to rely less on short-term loans, consistent with Fan et al. (2008). Our results also show that the profitability of a firm (*ROA*) is positively associated with total loans (*Δloan*), long-term loans (*Δlongl*), and short-term loans (*Δshortl*). This evidence is consistent with the static trade-off theory.

[Insert Table 3]

**5.2. Test of H2**

We then examine how local SOEs' long-term loans affect their Tobin's Q when turnover happens. Table 4 reports the results of the regression in Model (2). Official turnover (*Turnover*) is not significantly associated with firm value (*Δtq*). Long-term loans (*Δlongl*) are significantly negatively related with firm value (*Δtq*), implying that the long-term loans of local SOEs are

not efficient and reduce firm value. The coefficient on the interaction of turnover and long-term loans is significantly positive, showing that in turnover years, the more the long-term loan a firm gets, the higher its value grows. This result suggests that, generally, local SOEs' allocation of loan resources is inefficient; yet in turnover years, this inefficiency could be reduced, which supports H2.

As discussed in Section 2, both the supply-side adjustment (i.e. the bank channel) and the demand-side adjustment (i.e. the firm channel) during political turnover could potentially affect the efficiency of loan allocation. Considering the bank channel, under less political pressure during turnover years, banks have more autonomy in credit allocation. Therefore, they are more likely to make profit-maximizing lending decisions, and the high-quality loans are more likely to increase firm value (Beck et al., 2000). The positive coefficient on the interaction of turnover and long-term loans supports this prediction. Considering the firm channel, local officials have less of a political incentive to encourage overinvestment during turnover years. The reduced political pressure allows local SOEs to increase efficiency by cutting back on inefficient investments (i.e. overinvestment), leading to a decline in the demand for long-term loans. The greater the decrease in long-term loans (i.e. the greater the decrease in large inefficient investments), the greater the improvement in efficiency. This prediction implies a negative coefficient on the interaction of turnover and long-term loans. Yet this is not supported by our regression results. Our fining suggests that political turnover impacts bank loans mainly through the bank channel, or the effect from the bank channel dominates if the effects from both channels coexist.

[Insert Table 4]

### 5.3. The behaviour of lending new loans

It should be noted that there are many zeros for the value of the change in long-term loans (Δlongl), as not all local SOEs receive new loans each year. To ensure that our results are not driven by this pattern of data, we conduct a further analysis, focusing on the change in new long-term loans. We use three dummy variables to gauge whether a firm receives new long-term loans: (1) *Δduml* equals 1 if long-term loans for the current year are greater than long-term loans for the previous year, and 0 otherwise; (2) *Δdumlnew* equals 1 if (Long-term $\text{loan}_{\text{year t}}$ + Long-term loan due within one $\text{year}_{\text{year t}}$ − Long-term $\text{loan}_{\text{year t-1}}$ − Interest $\text{payable}_{\text{year t}}$) is greater than 0, and 0 otherwise[3]; and (3) *Δdumlquarter* equals 1 if a firm has an increase in long-term loans in any quarter, and 0 otherwise. We use quarterly data to construct this variable, considering that firms may take out new loans and pay off old loans at different points in time within a year. Loan data from annual reports may not capture such changes within a year.

[Insert Table 5]

Table 5 reports the descriptive statistics of the three dummy variables for new long-term loans and the regression results. Panel A shows that the mean value of the change in the long-term loans of local SOEs in the turnover group is significantly lower than that in the non-turnover group. Panel B reports the regression results. We find a significant negative impact of official turnover on new long-term loans across all three measures of new long-term loans. We also report a significant positive correlation between *Δtq* and the interaction of turnover and new long-term loans, suggesting that find that the efficiency of new long-term loans increases

[3]We also use quarterly data to construct this variable, and the results are essentially unchanged.

in turnover years, consistent with the results in Table 3 and Table 4.

### 5.4. Regional differences

Economic development and market development conditions vary across regions/provinces in China. In order to further empirically answer whether provincial official turnover impacts on bank loans and improvement in credit allocation efficiency in different regions/provinces with various degrees of economic development and marketization, we classify firms into Eastern China and Central-and-Western China subsamples[4] and high and low degrees of marketization subsamples based on the median of the NERI (National Economic Research Institute of China) marketization index.

[Insert Table 6]

Table 6 reports the results. The impact of turnover on long-term loans of local SOEs and on the efficiency of loans in turnover years is only significant in the well-developed eastern region. We also find similar results based on the high and low degrees of marketization subsamples. The decline in bank loans and improvement in credit allocation efficiency in more marketized provinces are more affected by provincial official turnover. Our results are consistent with Jones and Olken (2004), who find that national leaders' turnover has a significant effect on economic growth in high-income countries, yet not in low-income countries. Both the resource endowment and the degree of marketization are higher in the eastern region of China, providing more space for local government officials to exert their

[4] The Eastern group includes the following provinces: Peking, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong and Hainan; the Middle-and-Western group includes Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, Hunan, Sichuan, Chongqin, Guizhou, Yunnan, Xizang, Shanxi, Gansu, Qinghai, Ningxia, Xinjiang, Guangxi and Neimenggu. The Easten provinces are generally more developed than the Middle-and-Western provinces.

influence. Officials in high resource endowment areas are more likely to be competitive in seeking economic development. Therefore, political officials in the eastern region may have a stronger influence on long-term loans, and their intervention could cause more severe overinvestment problems. In the absence of political intervention in turnover years, banks in the eastern region could have better self-adjusting abilities and issue loans more effectively. Our finding supports this prediction.

### 5.5. Further Analyses

An alternative interpretation of our results is that political uncertainty is associated with official turnover, which reduces banks' incentives to issue loans. If this is the case, political uncertainty should affect not only local SOEs but also other types of firms. We therefore replicate the tests based on data from other types of firms, namely non-SOEs (i.e. private firms) and central-SOEs (i.e. SOEs controlled by the central government). The results, untabulated but available upon request, show that provincial political turnover does not significantly influence bank loans in non-SOEs or central-SOEs. The impact is only significant for local SOEs (i.e. SOEs controlled by local governments). Therefore, the evidence suggests that the political uncertainty interpretation is not plausible. Results are available upon request The untabulated GMM estimation results for Equations 2 and 3 but are available upon request.

To further examine whether there is a difference between local SOEs under indirect control and those under direct control by provincial governments, we split our sample into two subsamples: those controlled by city or county governments and those controlled by provincial governments. Although turnover is still negatively associated with the change in loans, the

magnitude is higher for the latter, suggesting that provincial party secretary turnover has a larger impact on the loans of firms under their direct control. These results are also untabulated for the sake of space but available upon request from the authors.

### 5.6. Robustness Checks

The turnover of general secretaries is unlikely to occur randomly, leading to endogeneity concerns. For example, a decrease in debt financing can slow down the economy, which is likely to lead to the replacement of the general secretaries. We use two instrumental variables (IVs) to address the issue, namely the cumulative tenure of the departing official (*Accum_term*), and the number of local post and telecommunication businesses (*Post&telec*).[5] Due to the central control of the tenure of Community Party and government officials, the longer the tenure, the greater the possibility of being replaced. The number of local post and telecommunication businesses, from the *Chinese Statistical Yearbook*, could well reflect the local economic development, which affects local official turnover. Table 7 shows that both IVs significantly predict the turnover of provincial top officials in the first stage. The predicted turnover is significantly negatively associated with the change in total loans and the change in long-term loans in the second stage.

[Insert Table 7]

We also use the difference-in-differences (DiD) method as a further robustness check. In many provinces, turnover happens more than once, while in some provinces, turnover has never happened. For example, in Zhejiang province, the provincial secretary changed in 2003 and 2007; in Xinjiang province, there has been no turnover. Therefore, we perform three

[5] Because "Post&telec" has a significant relation with "GDP", we drop "GDP" in Model (1) to (4) in Table 7.

comparisons: the situation of local SOEs in turnover years and their situation in years before turnover, the situation of local SOEs in turnover years and their situation in years after turnover, and the situation of local SOEs in turnover years and local SOEs in provinces where no turnover has ever happened. Our results in Table 8 show that the relation between official turnover and new loans is significantly negative across all three DiD analyses.

[Insert Table 8]

## 6. Conclusion

This study explores the impact of political turnover on bank loan allocation and efficiency, in the context of turnover of Chinese provincial party committee secretaries between 2000 and 2008. We find an average of an 18.9% decrease in the loan increment of local SOEs in turnover years relative to non-turnover years, and the decrease mainly results from the reduction of long-term loans. We argue that the career-related incentives embedded in Chinese political and economic systems could be a plausible explanation for our results. Local officials have less of a political incentive to encourage overinvestment and to intervene in bank lending activities during turnover years, as the central government has already decided their destination by the time the turnover is announced. The results further show that loan efficiency significantly improves in turnover years, suggesting that banks could play a more effective financial intermediary role in credit allocation when there is less political intervention in turnover years.

Our novel evidence based on the Chinese setting highlights the importance of considering local officials' career-related political incentives in explaining their influence on local bank loan allocation. The results, contrasting those found in countries with democratic elections,

also suggest that it is crucial to understand the political regime and economic structure in which such career-related political incentives are embedded when studying the impact of a reshuffle of local political power on local economic activity. Finally, our results may shed additional light on the understanding of political influence in other transitional economies featuring state ownership-dominated banking systems.

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**Table 1 Definitions of Variables**

| | |
|---|---|
| *Δloan* | (total bank loan of current year – total bank loan of previous year)*100/total assets of previous year, and taking a value of zero if the calculated value is negative. |
| *Δlongl* | (long-term loan of current year – long-term loan of previous year)*100/total assets of previous year, and taking a value of zero if the calculated value is negative. |
| *Δshortl* | (total short-term bank loan of current year – total short-term bank loan of previous year)*100/total assets of previous year, and taking a value of zero if the calculated value is negative. |
| *Δtq* | Tobin's Q of current year minus Tobin's Q of previous year to capture the increment of firm value. |
| *Turnover* | Dummy variable taking a value of one when a province experiences turnover in year t. |
| *Size* | The log of total assets. |
| *Tangible* | Tangible assets as a ratio of assets. |
| *ROA* | Net earnings as a ratio of assets. |
| *Growth* | The percentage change in annual sales. |
| *GDP* | Increment of five-year moving average provincial GDP. |
| *Δduml* | Dummy variable taking a value of one when long-term loan of the current year minus long-term loan of the previous year is positive, and zero otherwise. |
| *Δdumlnew* | Dummy variable taking a value of one if the new loan (Long-term $loan_t$ + Long-term loan due within one $year_t$ – Long-term $loan_{t-1}$ – Interest $payable_t$) is greater than zero, and zero otherwise. |
| *Δdumlquarter* | Dummy variable taking the value of one when the firm has increased long-term loans in any of the four quarters, and zero otherwise. |
| *Post&telec* | The log of the number of a province's post and telecommunication businesses. |
| *Accum_term* | Accumulated tenure, calculated as official tenure+1. |

## Table 2 Sample Distribution and Summary Statistics

Panel A presents the distribution of our sample across years. Panel B reports summary statistics of variables. ***, **, and * in Panel B indicate the two-tailed significance of the difference between means or medians between the non-turnover and turnover samples at the 1%, 5%, and 10% levels, respectively.

Panel A: Sample distribution by year

| year | Province Sample | | Local SOE Sample | | |
|---|---|---|---|---|---|
| | No. of turnover provinces | Percent of 31 provinces | No. of local SOEs in turnover provinces | Total no. of local SOEs | Percent |
| 2000 | 4 | 12.90% | 82 | 500 | 16.40% |
| 2001 | 7 | 22.58% | 89 | 580 | 15.34% |
| 2002 | 6 | 19.35% | 72 | 630 | 11.43% |
| 2003 | 12 | 38.71% | 381 | 674 | 56.53% |
| 2004 | 3 | 9.68% | 38 | 631 | 6.02% |
| 2005 | 4 | 12.90% | 83 | 647 | 12.83% |
| 2006 | 7 | 22.58% | 80 | 603 | 13.27% |
| 2007 | 10 | 32.26% | 206 | 605 | 34.05% |
| 2008 | 13 | 41.94% | 362 | 612 | 59.15% |
| Total | 66 | 23.66% | 1,393 | 5,482 | 25.41% |

Panel B: Summary statistics

| | | *Δloan* | *Δlongl* | *Δshortl* | *Δtq* | *growth* | *size* | *Tangible* | *ROA* | *ΔROA* | *GDP* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Non-turnover | Mean | 5.922 | 2.568* | 4.258 | -0.011*** | 0.186*** | 21.212*** | 0.460*** | 0.027 | -0.004** | 10.789*** |
| | Median | 1.386 | 0.000** | 0.824 | -0.050*** | 0.108*** | 21.132*** | 0.436*** | 0.030 | -0.002 | 10.782*** |
| | Sd. | 9.684 | 5.941 | 6.908 | 0.507 | 0.636 | 0.890 | 0.278 | 0.062 | 0.105 | 1.547 |
| Turnover | Mean | 5.806 | 2.241 | 4.313 | -0.115 | 0.130 | 21.315 | 0.373 | 0.028 | 0.006 | 11.328 |
| | Median | 1.284 | 0.000 | 0.706 | -0.110 | 0.027 | 21.218 | 0.341 | 0.032 | -0.001 | 10.896 |
| | Sd. | 10.079 | 5.627 | 7.307 | 0.645 | 0.513 | 0.973 | 0.300 | 0.066 | 0.182 | 1.793 |

## Table 3 Impact of Official Turnover on Allocation of Bank Loans

This table presents the results regarding the effect of official turnover on the change in bank loans. t-statistics are reported in parentheses. ***, **, and * indicate that the coefficient is statistically significant at the 1%, 5%, and 10% levels, respectively.

| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* |
|---|---|---|---|---|---|---|
| | *Δloan* | *Δlongl* | *Δshortl* | *Δloan* | *Δlongl* | *Δshortl* |
| *Turnover* | -0.993* | -1.552*** | -0.309 | -1.122** | -1.566*** | -0.401 |
| | (-1.82) | (-3.10) | (-0.77) | (-2.08) | (-3.13) | (-1.01) |
| *growth* | | | | 0.015 | 0.008 | 0.004 |
| | | | | (0.28) | (0.15) | (0.10) |
| *size* | | | | -0.200 | 1.557*** | -0.277 |
| | | | | (-0.78) | (6.53) | (-1.46) |
| *Tangible* | | | | -4.098*** | -0.441 | -2.691*** |
| | | | | (-4.06) | (-0.48) | (-3.63) |
| *ROA* | | | | 42.480*** | 18.760*** | 27.060*** |
| | | | | (11.61) | (5.60) | (10.27) |
| *GDP* | | | | -0.034 | -0.295* | 0.155 |
| | | | | (-0.19) | (-1.77) | (1.15) |
| *Ind/year* | yes | yes | yes | yes | yes | yes |
| *_cons* | 5.848*** | -2.248* | 4.442*** | 9.940* | -32.060*** | 8.405** |
| | (4.01) | (-1.72) | (4.14) | (1.78) | (-6.18) | (2.04) |
| *N* | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 |
| *Chi2* | 190.1 | 251.5 | 135.2 | 365.7 | 345.5 | 275.1 |

## Table 4 Impact of Official Turnover on Efficiency of Bank Loan Allocation

This table presents results regarding the effect of official turnover on the efficiency of bank loan allocation. Heteroscedasticity-consistent t-statistics are reported in parentheses. ***, **, and * indicate that the coefficient is statistically significant at the 1%, 5%, and 10% levels, respectively.

| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* |
|---|---|---|---|---|---|---|---|
| | *Δtq* | *Δtq* | *Δtq* | *Δtq* | *Δtq* | *Δtq* | *Δtq* |
| *Δlongl* | -0.004*** | -0.005*** | -0.005*** | -0.005*** | -0.004*** | -0.004*** | -0.005*** |
| | (-4.37) | (-8.21) | (-8.18) | (-8.08) | (-7.59) | (-7.56) | (-7.60) |
| *Turnover* | | | 0.004 | 0.001 | | 0.004 | 0.001 |
| | | | (0.39) | (0.11) | | (0.42) | (0.12) |
| *Turnover *Δlongl* | | | | 0.003* | | | 0.003** |
| | | | | (1.91) | | | (2.03) |
| *Growth* | | | | | -0.051*** | -0.051*** | -0.051*** |
| | | | | | (-5.35) | (-5.35) | (-5.38) |
| *Size* | | | | | -0.011** | -0.011** | -0.011** |
| | | | | | (-2.26) | (-2.26) | (-2.24) |
| *ROA* | | | | | -0.039 | -0.039 | -0.039 |
| | | | | | (-1.17) | (-1.18) | (-1.17) |
| *GDP* | | | | | -0.003 | -0.003 | -0.003 |
| | | | | | (-0.85) | (-0.87) | (-0.88) |
| *Tangible* | | | | | 0.058** | 0.058** | 0.056** |
| | | | | | (2.14) | (2.14) | (2.08) |
| *Ind/year* | no | yes | yes | yes | yes | yes | yes |
| *_cons* | -0.016** | 0.355*** | 0.354*** | 0.355*** | 0.604*** | 0.604*** | 0.604*** |
| | (-2.39) | (12.42) | (12.40) | (12.43) | (5.69) | (5.69) | (5.69) |
| *N* | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 |
| $R^2$ | 0.004 | 0.599 | 0.599 | 0.599 | 0.605 | 0.605 | 0.605 |
| *F* | 19.14 | 266.8 | 258.1 | 250.3 | 233.7 | 227.2 | 221.3 |

## Table 5 Impact of Official Turnover on New Loans

This table presents descriptive statistics and the regression results of new loans. t-statistics are reported in parentheses, and they are adjusted for heteroskedasticity when the dependent variable is Δtq. ***, **, and * indicate that the coefficient is statistically significant at the 1%, 5%, and 10% levels, respectively.

Panel A: Descriptive Statistics of New Loans

| | | *Δduml* | *Δdumlnew* | *Δdumlquarter* |
|---|---|---|---|---|
| Non-Turnover | Mean | 0.360* | 0.525** | 0.588*** |
| | Median | 0.000* | 1.000** | 1.000*** |
| | Sd. | 0.480 | 0.499 | 0.492 |
| Turnover | Mean | 0.327 | 0.489 | 0.551 |
| | Median | 0.000 | 0.000 | 1.000 |
| | Sd. | 0.469 | 0.500 | 0.498 |
| Total Sample | Mean | 0.352 | 0.516 | 0.579 |
| | Median | 0.000 | 1.000 | 1.000 |
| | Sd. | 0.477 | 0.500 | 0.494 |

Panel B: Regression on New Loans

| | *X=Δduml* | | *X=Δdumlnew* | | *X=Δdumlquarter* | |
|---|---|---|---|---|---|---|
| | *（1）* | *（2）* | *（3）* | *（4）* | *（5）* | *（6）* |
| | *X* | *Δtq* | *X* | *Δtq* | *X* | *Δtq* |
| *Turnover* | -0.182** | -0.009 | -0.141** | -0.009 | -0.122* | -0.011 |
| | (-2.51) | (-0.72) | (-2.13) | (-0.54) | (-1.75) | (-0.74) |
| *X* | | -0.048*** | | -0.031*** | | -0.027*** |
| | | (-4.79) | | (-3.28) | | (-2.63) |
| *Turnover*X* | | 0.044** | | 0.036* | | 0.038** |
| | | (2.20) | | (1.89) | | (1.97) |
| *growth* | 0.008 | -0.056*** | 0.066 | -0.054*** | 0.005 | -0.052*** |
| | (0.16) | (-5.84) | (1.37) | (-3.69) | (0.90) | (-5.32) |
| *size* | 0.354*** | -0.011** | 0.543*** | -0.012** | 0.611*** | -0.018*** |
| | (8.83) | (-2.23) | (10.51) | (-2.58) | (11.19) | (-3.58) |
| *Tangible* | 0.014 | 0.070** | 0.541*** | 0.075*** | 0.361* | 0.075*** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (0.09) | (2.57) | (2.91) | (3.34) | (1.95) | (2.70) |
| *ROA* | 2.570*** | | -0.377 | | 0.562 | |
| | (4.82) | | (-0.71) | | (0.97) | |
| *ΔROA* | | -0.036 | | -0.036 | | -0.066** |
| | | (-1.06) | | (-0.21) | | (-2.02) |
| *GDP* | -0.011 | -0.002 | -0.012 | -0.002 | -0.031 | -0.002 |
| | (-0.43) | (-0.69) | (-0.41) | (-0.76) | (-1.04) | (-0.50) |
| *Ind/year* | yes | yes | yes | yes | yes | yes |
| _cons | -7.329*** | 0.612*** | -10.680*** | 0.629*** | -11.920*** | 0.739*** |
| | (-8.56) | (5.70) | (-9.86) | (6.08) | (-10.16) | (6.79) |
| *N* | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 |
| $R^2$ | | 0.602 | | 0.604 | | 0.595 |
| *Chi2/ F* | 229.18 | 218.7 | 216.14 | 216.14 | 520.55 | 208.9 |

## Table 6 Official Turnover Effect in Different Regions

This table presents results for the official turnover effect in different regions. t-statistics are reported in parentheses, and they are adjusted for heteroskedasticity when the dependent variable is Δtq. ***, **, and * indicate that the coefficient is statistically significant at the 1%, 5%, and 10% levels, respectively.

| Panel A | Eastern Regions | | Middle-and-Western Regions | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| | *Δlongl* | *Δtq* | *Δlongl* | *Δtq* |
| *Turnover* | -2.085*** | 0.008 | -0.879 | 0.010 |
| | (-2.60) | (0.44) | (-1.24) | (0.62) |
| *Δlongl* | | -0.006*** | | -0.004*** |
| | | (-6.06) | | (-3.28) |
| *Turnover*Δlongl* | | 0.003* | | 0.002 |
| | | (1.81) | | (1.20) |
| *growth* | 0.009 | -0.053*** | 0.206 | -0.046** |
| | (0.18) | (-3.51) | (0.57) | (-1.98) |
| *size* | 1.642*** | -0.026*** | 1.915*** | -0.009 |
| | (5.19) | (-2.85) | (4.99) | (-0.88) |
| *Tangible* | -0.691 | 0.058* | -0.289 | 0.068 |
| | (-0.57) | (1.72) | (-0.20) | (1.56) |
| *ROA* | 15.700*** | | 23.080*** | |
| | (3.55) | | (4.35) | |
| *ΔROA* | | -0.484*** | | 0.149 |
| | | (-4.14) | | (0.95) |
| *GDP* | -0.124 | -0.004 | 0.043 | -0.006 |
| | (-0.45) | (-0.62) | (0.17) | (-1.01) |
| *Ind/year* | yes | yes | yes | yes |
| *_cons* | -34.830*** | 0.898*** | -42.510*** | 0.602*** |
| | (-4.64) | (4.23) | (-5.19) | (2.76) |
| *N* | 3,156 | 3,156 | 2,326 | 2,326 |
| $R^2$ | | 0.588 | | 0.624 |
| *Chi2/ F* | 225.1 | 81.60 | 225.1 | 105.58 |

| Panel B | *NERI>=Median* | | *NERI < Median* | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |

| | *Δlongl* | *Δtq* | *Δlongl* | *Δtq* |
|---|---|---|---|---|
| *Turnover* | -1.689** | -0.005 | -0.692 | 0.013 |
| | (-2.07) | (-0.26) | (-0.99) | (1.00) |
| *Δlongl* | | -0.005*** | | -0.005*** |
| | | (-5.14) | | (-6.20) |
| *Turnover*Δlongl* | | 0.004* | | 0.002 |
| | | (1.76) | | (1.11) |
| *growth* | -0.101 | -0.057*** | 0.058 | -0.040*** |
| | (-0.69) | (-4.04) | (0.93) | (-3.27) |
| *size* | 1.807*** | -0.038*** | 1.341*** | 0.022*** |
| | (5.53) | (-5.41) | (3.79) | (3.46) |
| *Tangible* | -0.539 | -0.002 | 0.049 | 0.098*** |
| | (-0.41) | (-0.05) | (0.04) | (2.91) |
| *ROA* | 17.874*** | | 20.320*** | |
| | (3.79) | | (4.19) | |
| *ΔROA* | | 0.213*** | | -0.382*** |
| | | (4.45) | | (-8.45) |
| *GDP* | -0.573** | -0.007 | 0.319 | -0.002 |
| | (-2.13) | (-1.14) | (1.33) | (-0.50) |
| *Ind/year* | -34.335*** | 1.198*** | -36.094*** | -1.105*** |
| *_cons* | (-4.61) | (7.35) | (-4.46) | (-7.43) |
| | yes | yes | yes | yes |
| *N* | 2,813 | 2,813 | 2,669 | 2,669 |
| $R^2$ | - | 0.637 | | 0.551 |
| *Chi2/ F* | 217.34 | 132.02 | 165.53 | 91.27 |

## Table 7 2SLS Regression Results

This table presents results of 2SLS regression. The IV in Panel A is the log of the number of province's post and telecommunication businesses (Post&telec), and the IV in Panel B is cumulative tenure of departed officials (Accum_term). t-statistics are reported in parentheses. ***, **, and * indicate that the coefficient is statistically significant at the 1%, 5%, and 10% levels, respectively.

| | *Panel A: IV=Post&telec* | | | | *Panel B: IV= Accum_term* | | | |
|---|---|---|---|---|---|---|---|---|
| | *First-stage* | *Second-stage* | | | *First-stage* | *Second-stage* | | |
| | *(1)* | *(2)* | *(3)* | *(4)* | *(5)* | *(6)* | *(7)* | *(8)* |
| | *Turnover* | *Δloan* | *Δlongl* | *Δshortl* | *Turnover* | *Δloan* | *Δlongl* | *Δshortl* |
| *Turnover* | | -21.160** | -14.530** | -7.455 | | -6.748** | -3.945** | -2.638 |
| | | (-2.27) | (-2.47) | (-1.34) | | (-2.05) | (-2.01) | (-1.13) |
| *Post&telec* | 0.166*** | | | | | | | |
| | (3.46) | | | | | | | |
| *Accum_term* | | | | | 0.089*** | | | |
| | | | | | (7.64) | | | |
| *growth* | -0.006 | 0.001 | -0.005 | -0.004 | -0.006 | 0.007 | 0.000 | -0.003 |
| | (-0.46) | (0.01) | (-0.19) | (-0.15) | (-0.42) | (0.20) | (0.01) | (-0.11) |
| *size* | 0.001 | -0.444** | 0.169 | -0.428*** | -0.026 | -0.477*** | 0.163* | -0.455*** |
| | (0.02) | (-2.18) | (1.31) | (-3.50) | (-0.63) | (-2.96) | (1.70) | (-4.00) |
| *Tangible* | -0.142 | -2.070*** | -0.294 | -1.536*** | -0.025 | -1.869*** | -0.188 | -1.433*** |
| | (-0.85) | (-2.58) | (-0.58) | (-3.20) | (-0.15) | (-2.97) | (-0.50) | (-3.23) |
| *ROA* | -0.014 | 13.510*** | 4.247*** | 9.340*** | 0.019 | 13.550*** | 4.271*** | 9.352*** |
| | (-0.04) | (6.52) | (3.24) | (7.53) | (0.05) | (8.27) | (4.38) | (8.08) |
| *GDP* | | | | | 0.091*** | 0.011 | -0.123* | 0.119 |
| | | | | | (2.98) | (0.09) | (-1.67) | (1.36) |
| *Ind/year* | yes | yes | yes | yes | yes | yes | yes | yes |
| _cons | -3.115*** | 19.180*** | 0.105 | 16.110*** | -3.334*** | 18.730*** | 0.711 | 15.140*** |
| | (-3.46) | (4.42) | (0.04) | (6.21) | (-3.63) | (5.31) | (0.34) | (6.07) |
| *N* | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 | 5,482 |
| *Chi2* | 1072.8 | 171.9 | 157.6 | 186.2 | 1126.9 | 271.6 | 284.1 | 214.2 |

## Table 8 Difference-in-Differences Results

This table presents results of difference-in-differences regressions. t-statistics are reported in parentheses. ***, **, and * indicate that the coefficient is statistically significant at the 1%, 5%, and 10% levels, respectively.

| | Year of Turnover vs. Year before Turnover | Year of Turnover vs. Year after Turnover | Year of Turnover vs Turnover never happens |
|---|---|---|---|
| | *Δlongl* | *Δlongl* | *Δlongl* |
| *Turnover* | -0.932* | -1.646** | -2.838* |
| | (-1.66) | (-2.48) | (-1.71) |
| *growth* | 0.010 | -0.065 | 0.163 |
| | (0.20) | (-0.47) | (0.88) |
| *size* | 1.159*** | 1.825*** | 1.504*** |
| | (4.53) | (6.28) | (3.41) |
| *Tangible* | -0.571 | 0.379 | 1.203 |
| | (-0.58) | (0.33) | (0.63) |
| *ROA* | 18.840*** | 13.890*** | 12.380** |
| | (5.35) | (3.41) | (2.30) |
| *GDP* | -0.156 | -0.424* | -0.181 |
| | (-0.81) | (-1.87) | (-0.45) |
| *Ind/year* | yes | yes | yes |
| _cons | -26.190*** | -37.800*** | -29.430*** |
| | (-4.58) | (-5.48) | (-3.01) |
| *N* | 4,705 | 3,219 | 1,522 |
| *Chi2* | 266.6 | 267.8 | 95.54 |